



Getting Started

Contents

1	Introduction to Minitab Workspace®	3
Objectives	3	
Learn about Workspace	3	
Learn about this guide	3	
Open a project	3	
Open a tool	4	
What's next	4	
2	Use a brainstorming tool	5
Objectives	5	
Learn about brainstorming tools	5	
Add a brainstorming tool	6	
Generate a brainstorm list	6	
Make X and Y variables from shapes	6	
What's next	7	
3	Map your process	8
Objectives	8	
Learn about maps	8	
Add a process map	10	
Add shapes and connectors	10	
Add variables to a shape	11	
Show data on a map	11	
What's next	12	
4	Work with variables in forms	13
Objectives	13	
Learn about forms	13	
Add a C&E Matrix	13	
Add a Control Plan	14	
What's next	14	
5	Add a Monte Carlo simulation	15
Objectives	15	
Learn about Monte Carlo simulation	15	
Learn about parameter optimization	15	
Learn about sensitivity analysis	15	
What's next	15	

1. Introduction to Minitab Workspace®

Objectives

- [Learn about Workspace](#) on page 3
- [Learn about this guide](#) on page 3
- [Open a project](#) on page 3
- [Open a tool](#) on page 4

Learn about Workspace

Workspace is a comprehensive set of visual tools, forms, and templates. You can open a single tool, add as many tools as you need, and save them all in a single project. You can also open a project with a built-in roadmap based on quality improvement methodologies, such as DMAIC, QFD, Just Do It, and Kaizen.

With all your tools in one place, data can be shared across tools and projects making it easier to work more efficiently, identify opportunities, understand complex initiatives, and ultimately solve problems.

Learn about this guide

This guide introduces you to some of the most commonly-used tools in Workspace. Use this guide to learn how to complete the following tasks.

- Open a tool or a project.
- Insert a fishbone, generate a brainstorm list, and create variables from the list.
- Map your process using a process maps, cross-functional maps, and value stream maps.
- Open forms and enter and share data.
- Add a Monte Carlo simulation and become familiar with its concepts.

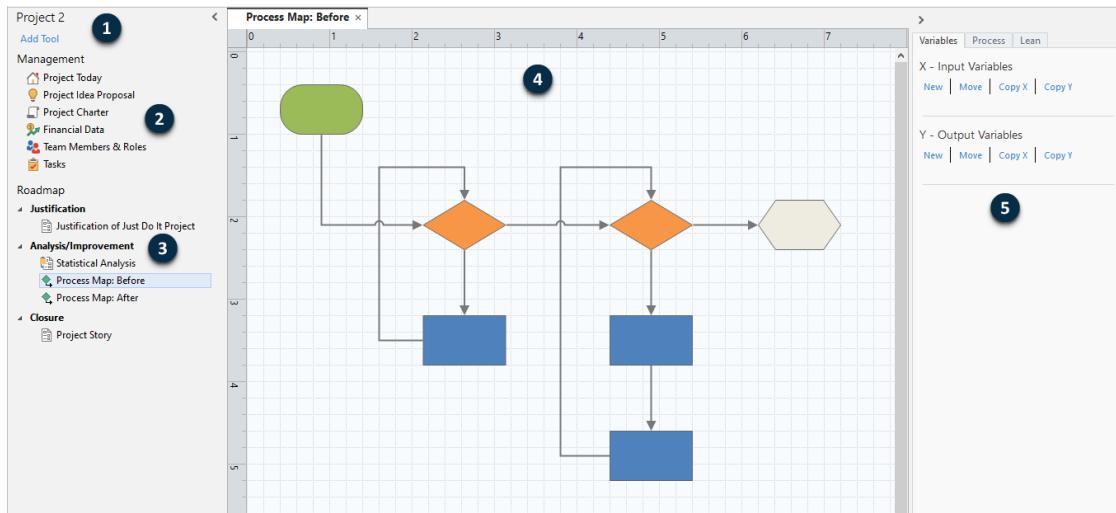
Open a project

You can open a project that has a roadmap. A roadmap defines the phases of the project, as well as the tools and forms to use in each phase. You can follow the methodology of a predefined roadmap, or you can create a custom project based on a roadmap that you define.

1. To open Workspace, double-click the shortcut icon .
2. Select **New**, then choose a project.
Find the project templates under **Projects**.

Projects that have a roadmap

The following image shows an example of a project that has a roadmap in the navigator pane and a process map in the workspace.



Projects can have the following components.

1: Navigator pane

The area where you access the management tools and roadmap tools in your project.

2: Management Section

The set of forms in a project template that contain project data, such as **Business Unit, Department**, or **Location**, which are common to all projects. These forms ensure that project data is collected consistently across all projects.

3: Roadmap

The area where you add tools and forms and organize your project into phases.

4: Workspace

The area where you view and edit tools.

5: Task pane

The area where you interact with items in the workspace, for example, add data to shapes, apply formatting, and more.

Open a tool

You can open a single tool for a quick analysis, then add more tools as you need them. Because the tools are stored together in a single project, they can share data.

- To open Workspace, double-click the shortcut icon .
 - Select **New**, then choose a tool from the list of common tools. To see a list of all the tools, select **Show full list of tools**.
- You can find this link below the tool gallery.

What's next

Let's get started!

2. Use a brainstorming tool

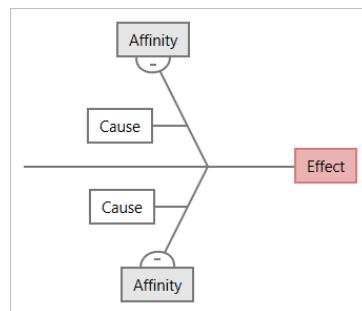
Objectives

- Learn about brainstorming tools on page 5
- Add a brainstorming tool on page 6
- Generate a brainstorm list on page 6
- Make X and Y variables from shapes on page 6

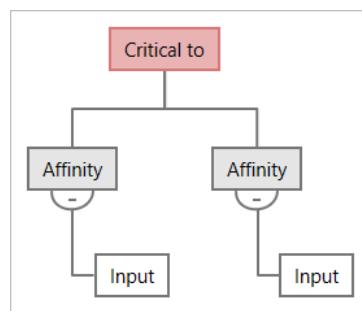
Learn about brainstorming tools

Workspace offers several types of brainstorming tools.

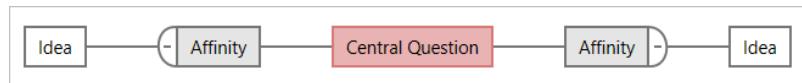
Use a fishbone to brainstorm the possible causes of a specific effect.



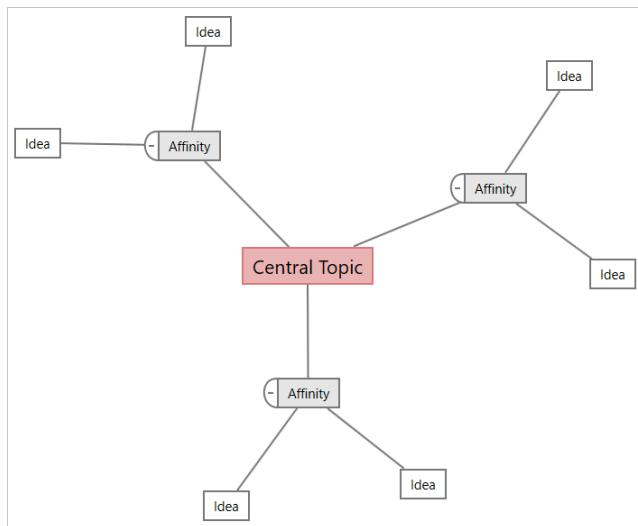
Use a CT tree to identify ways to meet customers' needs. CT trees allow you to brainstorm inputs about a critical-to-quality statement.



Use an idea map for general purpose brainstorming. Idea maps allow you to brainstorm ideas about a central question.



Use a mind map to organize related ideas and concepts. Mind maps allow you to brainstorm ideas about a central topic.



Add a brainstorming tool

Add a brainstorming tool to quickly generate and visually organize thoughts.

1. From the navigator pane, select **Add Tool**, then select a brainstorming tool template. Either browse through the list of tools or start typing the tool name in the **Search** box.
2. Select **Create** to add the tool to your project.

Generate a brainstorm list

In a brainstorming tool, you can quickly generate a brainstorm list by typing items in the task pane or by importing variables from other tools in your project.

1. In a brainstorming tool, choose **View > Task Pane**.
2. In the task pane, type an item and press **Enter**.
3. Select one or more items in the list and drag them to a shape on the diagram.

You can also drag items from the diagram back to the list.

Tip: To import variables from other tools into the brainstorm list, select **Import X Variable** or **Import Y Variable** in the task pane, then, in the **Data Selection** dialog box, select the variables to import.

Make X and Y variables from shapes

After you drag items from the brainstorm list to shapes on the diagram, you can make X and Y variables from the shapes. When you make a variable from a shape, you can later add it to a shape on a process map or to a table in a form for further analysis. In this example, you want to make an X variable from a shape that contains an item that you generated in the brainstorm list.

1. In a brainstorming tool, select a shape that contains an item from the brainstorm list, then right-click and select **Make X Variable**.
2. When the **Make Variable** dialog box appears, select **OK**.
Workspace makes a variable from the list item you dragged to the shape.

This new variable is unmapped until you add it to shape on a process map, which you will do in the next chapter.

What's next

Now that you have generated ideas and made X variables from shapes on a brainstorming tool, use a process map to map your process.

3. Map your process

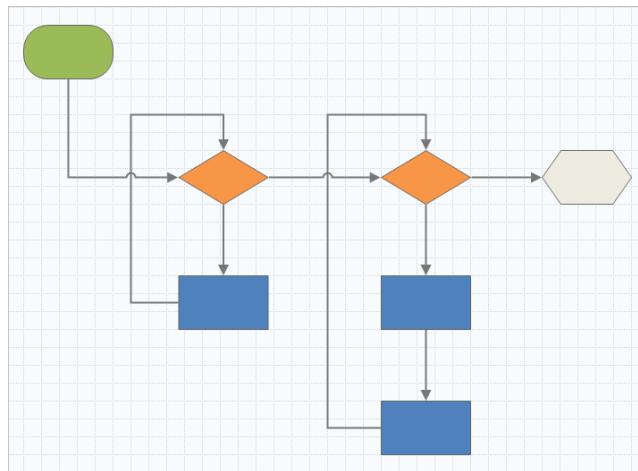
Objectives

- Learn about maps on page 8
- Add a process map on page 10
- Add shapes and connectors on page 10
- Add variables to a shape on page 11
- Show data on a map on page 11

Learn about maps

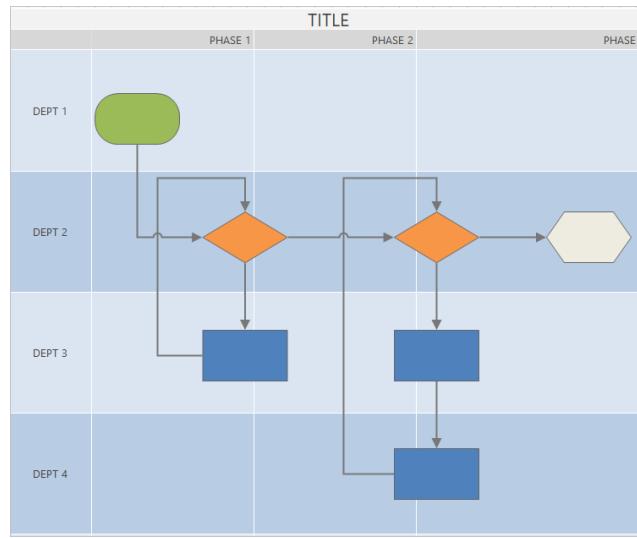
Workspace offers several types of maps.

Process map



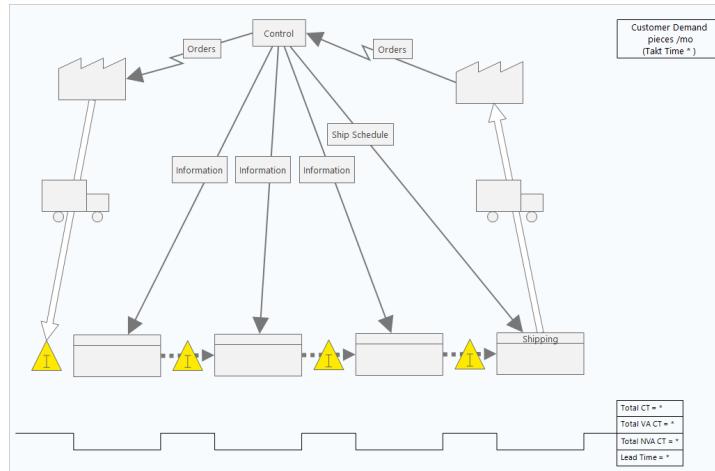
Use a process map to illustrate the sequential flow and the relationship of steps in a process or procedure.

Cross-functional process map



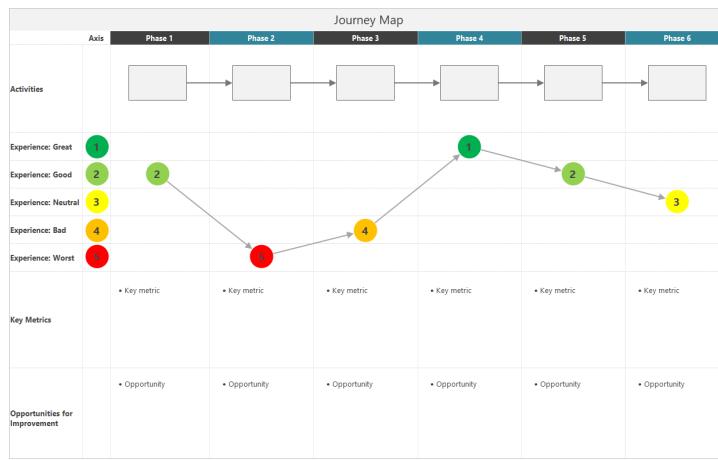
Use a cross-functional process map to illustrate the sequential steps of a process or a procedure as they cross departments (also called swim lanes) divide the steps horizontally. Phases divide the steps vertically.

Value stream map



Use a value stream map to show how materials and information flow through the value stream. A current state value stream map helps you to identify waste and to envision an improved future state.

Journey map



Use a journey map to illustrate the process a person goes through as they accomplish a task.

Add a process map

Add a process map tool to describe the flow of your process.

1. From the navigator pane, select **Add Tool**, then select **Process Map** to see the available process map templates. You can also browse through the list of tools or start typing the tool name in the **Search** box.
2. Select **Create** to add the tool to your project.

Add shapes and connectors

From the **Shapes** gallery, you can complete the following steps.

1. Add shapes.
 - a. Select the start shape and select the workspace. While the shape is selected, enter text to identify the start shape.
 - b. Select the decision shape and select the workspace. While the shape is selected, enter text to identify the decision shape.
 2. Connect the shapes.
 - a. Select the right-angle connector , then hold the pointer on the start shape.
 - b. When the anchor points appear on the start shape, select one and drag it to an anchor point on the decision shape.
- Anchor points keep the shapes connected when you move them around on the map.

- Continue to map your process.

Tip: To add the same shape multiple times, select the **Multi-Insert** button, select the shape in the gallery, then select the map where you want the shape to appear. Continue to select the map until you have added as many shapes as you need. Select **Multi-Insert** again to turn it off. You can also use **Multi-Insert** with connectors.

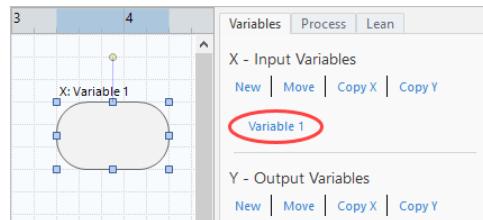
Add variables to a shape

You can add, copy, and move X variables, Y variables, lean data, and process data to shapes on a process map to give you a better understanding of which variables affect the outcome of each step.

In the previous chapter, you made an X variable from a shape on a brainstorming tool. Now, you can move that X variable to a shape on your process map.

- Select a shape on the process map.
- In the task pane, open the **Variables** tab. Under **X - Input Variables**, select **Move**.
- In the **Data Selection** dialog box, select the variable, then select **OK**.

The variable name appears in the task pane.



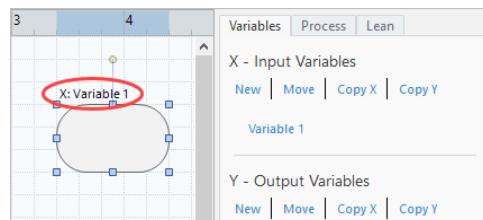
Show data on a map

After you add data to a shape, you can show it on the map to see where to focus your attention.

- Right-click a shape, then choose **Shape Data > Select and Arrange Shape Data**.
- In the **Select and Arrange Shape Data** dialog box, choose variable data fields to position relative to the selected shape.

For example, under **X Variables**, drag **Name** to the shape, position it, then select **OK**.

In this example, the variable name appears above the shape.



What's next

Now that you have mapped your process, you can use forms to evaluate the variables that affect your process and develop plans to address the issues.

4. Work with variables in forms

Objectives

- Learn about forms on page 13
- Add a C&E Matrix on page 13
- Add a Control Plan on page 14

Learn about forms

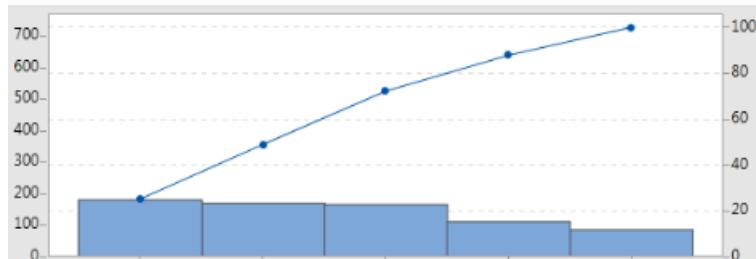
Workspace offers several types of forms so you can collect data about project. Usually, users enter data in forms, but sometimes, data is shared from other tools or across projects.

To learn more about all the forms in Workspace, go to [Available forms](#).

Add a C&E Matrix

After you identify variables in a brainstorming tool and map your process, you can add a C&E matrix to evaluate and prioritize the potential variables.

1. From the navigator pane, select **Add Tool**, then select **C&E Matrix (X-Y Matrix)**.
2. To add an existing X variable, hold the pointer on the row, select the add/delete button , then select **Select Existing X Variables**.
Either browse through the list of tools or start typing the tool name in the **Search** box.
3. In the **Data Selection** dialog box, select the X variable that you identified in the brainstorming tool and added to the process map.
4. To add a new Y variable, hold the pointer on the column, select the add/delete button , then select **Create New Y Variables**.
You can add multiple column and specify whether to add to the right or left of the insertion point.
5. Complete the matrix.
To move between fields and table cells, press the **Tab** key.
As you add data to the **C&E Matrix (X-Y Matrix)**, Workspace creates a **Pareto Chart**.
6. Review the **Pareto Chart** to determine which X variables are likely to have the most impact on your process.
The weighted value is on the left y-axis, and the percentage is on the right y-axis.



Add a Control Plan

After you identify the problem areas to address, you can use a control plan to create a list of vital inputs to control and outputs to monitor. You can also create a list of tools that you can use to control and monitor these variables.

1. Form the navigator pane, select **Add Tool**, then select **Control Plan**.
2. Enter any X variables that may affect your process. To add an X variable, hold the pointer on the row, select the add/delete button , then select **Create New X Variables**.
3. You can also select variables that you already created in other tools, such as process maps and brainstorming tools. To add an existing X variable to the control plan, hold the pointer on the row, select the add/delete button , then choose the X variable.
4. Complete the form.

What's next

Learn how the Monte Carlo simulation tool lets you use random data samples to evaluate the behavior of a complex system or process.

5. Add a Monte Carlo simulation

Objectives

- Learn about Monte Carlo simulation on page 15
- Learn about parameter optimization on page 15
- Learn about sensitivity analysis on page 15

Learn about Monte Carlo simulation

If you want to improve your product or service by using simulated data, you can insert and run a Monte Carlo simulation. Monte Carlo simulation uses repeated random sampling to simulate data for a given mathematical model and evaluate and optimize the outcome.

1. From the navigator pane, select **Add Tool**, then select **Monte Carlo Simulation**.
2. Define the model and run the simulation. Enter the variables and the response equation manually, or select **Import Models from Minitab** and import any number of models from a Minitab project.
3. Review the results.
4. Perform a parameter optimization.
5. Perform a sensitivity analysis.

After you run a Monte Carlo simulation, Workspace displays the results, how your results compare to generally accepted values, and guidance for next steps.

For more information, go to [Monte Carlo Simulation](#).

Learn about parameter optimization

Parameter optimization identifies optimal settings for the inputs that you can control. Workspace searches a range of values for each input to find settings that meet the defined objective and lead to better performance of the system.

For more information, go to [Perform a parameter optimization](#).

Learn about sensitivity analysis

Sensitivity analysis identifies inputs that have little effect on the variation of the output, or inputs that reduce the variation of the output. Workspace displays a graph that shows the effect of changing the input standard deviation on the percent of output that is out-of-specification.

After you analyze the results, you can change inputs or outputs, then rerun the analysis to evaluate a number of hypothetical scenarios.

For more information, go to [Perform a sensitivity analysis](#).

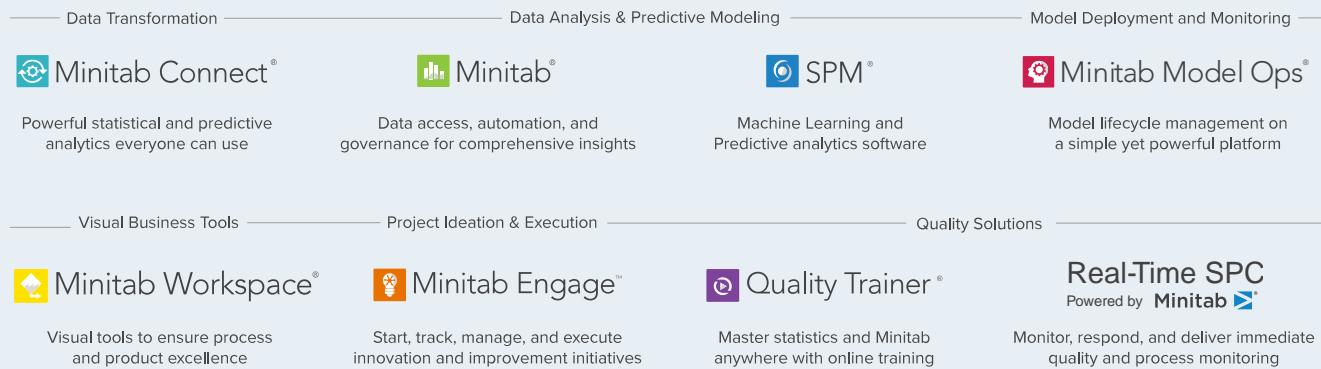
What's next

For videos, how-to's, and glossary terms, go to [Minitab Workspace Support](#).

Minitab Our mission is to help people discover valuable insights in their data.

Minitab helps companies and institutions to spot trends, solve problems and discover valuable insights in data by delivering a comprehensive and best-in-class suite of data analysis and process improvement tools. Combined with unparalleled ease-of-use, Minitab makes it simpler than ever to get deep insights from data. Plus, a team of highly trained data analytic experts ensure that users get the most out of their analysis, enabling them to make better, faster and more accurate decisions.

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